

BOOK REVIEW

Threatened Swallowtail Butterflies of the World. The IUCN Red Data Book. By N. M. Collins and M. G. Morris. ISBN 2-88032-603-6, vii + 401 pages, 8 colour plates. Price £18 (US\$26). Published November 1985, by IUCN, Gland and Cambridge.

This is the second volume in the IUCN Conservation Library series to deal with invertebrates, and breaks new ground by dealing with a single family of butterflies, the Papilionidae. The treatment is world-wide and the book is a veritable treasure-trove of information, of value not only to swallowtail enthusiasts but also to all biologists with an interest in conservation. It is of particular importance to those involved in conservation policy or in the assessment of potential protected areas.

The book opens with a short chapter on how to use it, followed by an introduction to the family and its conservation. Well written and informative sections highlight aspects of biology, distribution, classification and origin, the bearing on man and science, threats and aspects of conservation. The highly interesting case of how swallowtails helped resolve the Rhesus-immunization problem in humans is discussed here and the "threats" section brings out perhaps the most important message of the book, that as long as habitat alteration and destruction persist, survival of threatened species is most unlikely. The mere placing of a species on a "protected list" is totally inadequate, even harmful as it conveys the usually erroneous impression that something is being done to conserve it. Rainforest species, not surprisingly, are at greatest risk. The "conservation" section cogently explains how conservation can be effectively achieved, not by verbal rhetoric and placard-waving, but by hard work and sound biological data. On page 14 it is stated that the larval foodplants of *Papilio (Princeps)* species are almost entirely Rutaceae; it is now known that members of the African *P. zenobia* group utilize only Piperaceae. Chapter 3 is a long one, and details the nomenclature, distribution and conservation status of the 573 species recognized. The information contained in the annotated list is valuable and there is a useful geographical index following it. Insect nomenclature however is far from stable and the Papilionidae is certainly no exception. Even in the few years since the list was drafted, a few new species have been described or recognized and further changes will undoubtedly be needed in the future. Nevertheless, this chapter is an impressive data base, with conflicting opinions handled in a sensible manner. There are a few errors in the geographical information. For the benefit of users in the Indo-Australian Region, I detail the relevant amendments below.

Iphioides podalirius (Linnaeus): Not in China (see *I. podalirinus*) (Oberthür); *Meandrusa sciron* (Leech): *Subspecies lachinus* (Fruhstorfer) is

probably a distinct species; *Lamproptera meges* (Zinken-Sommer): Subspecies *ennius* (C. & R. Felder) from Sulawesi, is probably a distinct species; *Graphium euphrates* (C.&R. Felder): Subspecies *ornatus* (Rothschild) from N. Moluccas, is probably a distinct species; *G. batjanensis* Okano: Close to *G. stresemanni* (Rothschild) and recently described from Batjan, N. Moluccas; *G. cloanthus* (Westwood): Not in Sumatra (see *G. sumatranum* (Hagen)); *G. monticolum* (Fruhstorfer): Very likely a subspecies of *G. sarpedon* (Linnaeus) (*G. milon* (C. & R. Felder) is acceptable as a species, occurring in Sulawesi and the Moluccas); *Ornithoptera priamus* (Linnaeus): Distribution to include NE Queensland (Cape York to Stewart River); *Papilio (Princeps) noblei* de Niceville and *P. (P.) antonio* Hewitson: Transfer to *demolion* group; *P. (P.) helenus* Linnaeus: Only on Palawan in the Philippines (*P. hystaspes* C. & R. Felder elsewhere); *P. (P.) jordan* Fruhstorfer: Transfer to *nephelus* group, near other danaid mimics; *P. (P.) hipponous* C. & R. Felder and *P. (P.) pitmani* Elwes & de Niceville: Records from the Philippines belong to *P. hipponous*, not to *P. pitmani* which is a mainland species; *P. (P.) fuscus* Goeze: Subspecies *pertinax* Wallace from Sulawesi and the Sula Is, is probably a distinct species, and *P. hipponous lunifer* Rothschild from Sangihe and Talaud Is, is probably a subspecies of it. *P. fuscus* also occurs in Sulawesi; *P. (P.) heringi* Niepelt: A probable hybrid.

Chapter 4 analyses the distribution of the swallowtails and discusses the faunas of certain countries with an important fauna. Indonesia is considered the most critical in this regard and its fauna is analysed in detail. Unfortunately, the accompanying Table 4.2 contains a number of distributional errors, particularly concerning Sulawesi, the Moluccas and Java, and these need to be checked by referring back to Chapter 3. In addition, *G. cloanthus* should be deleted from the list, as records belong to *G. sumatranum*, whilst *G. batjanensis* needs to be added. Nevertheless, the analysis presented is an important contribution. The fauna of the Philippines is also analysed but in the accompanying Table 4.4, *P. pitmani* should read *P. hipponous* and this species occurs throughout the Philippines. Conversely, the widespread distribution given for *P. demoleus* Linnaeus requires confirmation. The faunas of China, Brazil and Madagascar are discussed briefly.

Trade in swallowtails is the subject of Chapter 5, which discusses the impact of private and commercial collectors on the fauna, and the increasing awareness of butterfly ranching as a means of meeting the needs of both collectors and conservation, as well as providing a source of income for the local populace. Together with the previous chapter, this one provides valuable data for those involved in the planning of conservation policy and protected areas.

A little over half of the book is taken up by Chapter 6, which treats in detail the 78 species considered to be threatened at the present time. Virtually all that is known about the species concerned is recorded here, together with conservation measures that have been applied, thus highlighting areas where further research is needed. Of these, 42 species occur in the Indo-Australian Region, with 12 in Papua New Guinea, including most of the *Ornithoptera* species. The newly described *Graphium batjanensis* should be added to this section; its conservation needs are probably similar to those of the related *G. stresemanni*. No Australian species are detailed, but *Protographium leosthenes* (Doubleday) is treated in an Appendix as requiring further monitoring and research. This is especially true of the very poorly known Northern Territory subspecies. The birdwings *O. euphorion* (Gray) and *O. richmondia* (Gray) are also included in this category.

In general, this is a timely and very worthwhile book. A host of literature references point to further sources of data should the reader require them. The errors are minor and do not detract from the usefulness of this volume. Attractively produced and inexpensive, this publication should become a much-consulted addition to the libraries of all those interested in biology and conservation.

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